

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Bouché et al. Attorney Docket No: BOUC0002
Serial No: 10/799,449 Group Art Unit: 3728
Filed: March 12, 2004 Examiner: Patterson, Marie
Title: ANKLE AND FOOT STABILIZATION SUPPORT

DECLARATION

Bellevue, Washington 98004

May 17, 2006 May 16, 2006

TO THE DIRECTOR OF THE PATENT AND TRADEMARK OFFICE:

The following declaration of Richard T. Bouché DPM, is submitted as part of a response to an Office Action dated January 13, 2006.

1. I, Richard T. Bouché am a Doctor of Podiatric Medicine and co-inventor of the subject matter described and claimed in the above-identified patent application, U.S. Serial No. 10/799,449, and as such, I am familiar with the subject matter disclosed and claimed therein.

2. Strap 160 of FIGURE 2 of U.S. Patent No. 4,753,229 (Sutherland) is NOT designed to provide support for the user's foot and ankle while the foot is in the *vulnerable plantarflexed, inverted position*. Significantly, lateral ankle sprains most often occur when the foot is in the plantarflexed position. The most common root cause for lateral ankle sprains due to inversion while the foot is in the plantarflexed position is damage to the anterior talofibular (ATF) ligament, which is particularly prone to injury when the foot is in the plantarflexed position. A properly tensioned strap or support proximate the forefoot can help prevent the damage to the APT ligament, thereby reducing the occurrence of lateral ankle sprains. Comparing FIGURE 2 of Sutherland with FIGURE 3A in the pending patent application, note that each Figure illustrates the support apparatus and footwear in a neutral position. Furthermore, Sutherland's strap 160 and applicants' tension band 18 each extend from a support foundation/ankle collar to the forefoot region. Thus, strap 160 and tension band 18 are disposed to provide support to the forefoot region (and the APT ligament), which will help prevent lateral ankle sprains in the plantarflexed position, but only *so long as the strap/tension band is taut while the user's foot is in the plantarflexed position*. A tension band/strap that is not taut will not provide support. When a user's foot is in the neutral position, and the user properly adjusts the support apparatus disclosed by Sutherland and the pending application, strap 160 and tension band 18 will be taut (i.e., will be capable of providing support). However, because of the way Sutherland's strap 160 is coupled to the support foundation/ankle collar, strap 160 will not be taut/under tension

1 when the user's foot moves from the neutral position to the plantarflexed position (plantarflexion is
2 shown in FIGURE 3C of the pending application; this position is also referred to as "demi-pointe" or
3 "on the ball of the foot"). Referring to Sutherland's FIGURE 2, note that strap 160 is attached to
4 ankle cuff 80 (i.e., the support foundation/ankle collar) *at the rear of the ankle cuff 80, behind*
5 (posterior to) the ankle axis of motion. Thus, when the ankle plantarflexes, strap 160 will *relax*, and
6 in the relaxed state will not be able to provide support during plantarflexion and inversion. The
7 failure of Sutherland to provide support under these conditions is quite significant, because as noted
8 above, providing support to the forefoot (and the AFT ligament) while the foot is in the plantarflexed
9 position will facilitate prevention of the most common type of lateral ankle sprains. Thus,
10 Sutherland's device *is not effective* at preventing ankle sprains while the foot is in the plantarflexed
11 position, because Sutherland's strap 160 *is not taut* when the user's foot is in the plantarflexed
12 position.

13 In contrast, tension band 18 (shown in FIGURES 1-4B, and particularly FIGURE 3C of the
14 pending application) is coupled to a location proximate a central portion of ankle collar 14a/14b, such
15 that when the apparatus is worn by a user, the location is substantially aligned with a user's ankle
16 (note FIGURE 2 shows tension band 16 and tension band 18 substantially overlapping where they
17 attach to the ankle collar, while FIGURES 3A-3C include phantom views of the bones in a user's
18 foot, enabling the spatial relationship of tension bands 16 and 18 relative to the ankle to be
19 ascertained). Because tension band 18 is substantially aligned with the user's ankle where tension
20 band 18 couples with the ankle collar, tension band 18 *does not relax* when the user's foot is in the
21 plantarflexed position. However, Sutherland's strap 160, which is coupled to the ankle collar behind
22 the ankle, relaxes and is not under tension when the user's foot is in the plantarflexed position. Thus,
23 in the plantarflexed position, tension band 18 in the pending application is capable of resisting the
24 pathological forces of plantarflexion and inversion, while strap 160 of Sutherland is not. It should be
25 noted that moving the attachment point of tension band 18 to the ankle collar anterior of the ankle
26 will still enable tension band 18 to be taut when the user's foot is in the plantarflexed position.
27 Embodiments in which tension bands 16 and 18 do not substantially overlap where they attach to the
28 ankle collar have been described in the specification as filed (see page 14, lines 20-23). Clearly,
29 Sutherland's support apparatus does not provide support to the user's forefoot while the user's foot is
30 in the plantarflexed position, whereas the present invention does.

31 3. Similarly, the portion of cord 13 that extends proximate the user's forefoot (see
32 FIGURE 1 of U.S. Patent No. 1,666,290, hereinafter referred to as "Johnston") will provide support
33 to the forefoot in the neutral position, but will also not provide support while the foot is in the
34 vulnerable plantarflexed, inverted position. As with strap 160 of Sutherland, the portion of cord 13
35 that extends proximate the user's forefoot also attaches to the ankle collar posteriorly (i.e., behind

1 the ankle). Because the portion of cord 13 that extends proximate the user's forefoot is attached to
2 the ankle collar behind the ankle, that portion of cord 13 will not be taut when the foot is in the
3 plantarflexed position (i.e., cord 13 will relax and not be under tension when the foot is in the
4 plantarflexed position). Accordingly, Johnston's support apparatus does not provide support to the
5 user's foot (particularly the forefoot) and ankle while the user's foot is in the plantarflexed position,
6 whereas the present invention does.

7 4. I hereby further declare that all statements made herein of my own knowledge are true
8 and that all statements made on information and belief are believed to be true; and further, that these
9 statements were made with the knowledge that willful false statements and the like so made are
10 punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States
11 Code, and that such willful false statements may jeopardize the validity of the application or any
12 patent issued thereon.

13 Date: 5/12/06

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